

11. Sharon

Program Name: Sharon.java

Input File: sharon.dat

Sharon would like to have a program that will simulate a game she is calling Drop Out. For each round of the game there are a different number of players seated in chairs on a stage in a circle numbered from 1 to the number of players. There is a trap door under each chair. At the beginning of the game Sharon rolls one or two dice to determine the “cycle” for the game. Sharon counts from one to the cycle number then pulls a lever that drops the player she lands on through the trap door. (Don’t worry! There is a giant soft foam rubber pad under the stage.) After that player takes the plunge, Sharon counts to the cycle number again and drops the next player through the stage. When counting around the circle, Sharon only counts the players left in the game. When only one player is still on the stage, they are declared the winner and then ... Sharon goes ahead and drops them through the stage as well. Sharon is kind of evil that way! In a game with 5 people named Tran, Alia Eun Marylee and America seated in order in chairs 1 through 5 Sharon rolls a 3 on her die. This means that Eun goes out first, Tran is next, then America, next to last is Alia and the only one left is Marylee and she is declared the winner.

Input: The first line of the input file will contain a single whole number G that represents the number of Drop Games to be played. The first line will be followed by G lines where each line is a game. Each line will begin with a number C representing the cycle number for this game. C will be followed by P the number of players in this game. Finally, P will be followed by P names each separated by a space.

Output: The name of the winner of each game.

Sample input:

```
3
3 5 Tran Alia Eun Marylee America
4 3 Shantel Sydney Irving
2 8 William Deangelo Rolando Lieselotte Toby Yetta Dolly Roxy
```

Sample output:

```
The winner is Marylee
The winner is Sydney
The winner is William
```